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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XD105

Small Takes of Marine Mammals Incidental to Specified Activities; Cape Wind's High Resolution Survey in Nantucket Sound, MA

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; issuance of incidental harassment authorization.

SUMMARY: In accordance with the Marine Mammal Protection Act (MMPA), notification is hereby given that NMFS issued an Incidental Harassment Authorization (IHA) to Cape Wind Associates (CWA) to take marine mammals, by harassment, incidental to pre-construction high resolution survey activities in Nantucket Sound.

DATES: Effective April 25, 2014, through April 24, 2015.

ADDRESSES: An electronic copy of the application, authorization, and associated document may be obtained by visiting the internet at:

<http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications>. Documents cited in this notice may also be viewed, by appointment, during regular business hours, at the Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910.

FOR FURTHER INFORMATION CONTACT: Jolie Harrison, National Marine Fisheries Service, Office of Protected Resources, (301) 427-8401.

SUPPLEMENTARY INFORMATION:

Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 et seq.) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specific geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring, and reporting of such takings are set forth. NMFS has defined "negligible impact" in 50 CFR 216.103 as "an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival."

Except with respect to certain activities not pertinent here, the MMPA defines "harassment" as: any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) has the

potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering [Level B harassment].

Summary of Request

On December 20, 2013, NMFS received an application from CWA for the taking of marine mammals incidental to high resolution survey activities. NMFS determined that the application was adequate and complete on December 20, 2013. NMFS published a notice of proposed IHA on February 3, 2014 (79 FR 6167).

CWA will conduct a high resolution geophysical survey in Nantucket Sound, Massachusetts. The activity will occur during daylight hours over an estimated 109-day period beginning in May 2014. The following equipment used during the survey is likely to result in the take of marine mammals: shallow-penetration subbottom profiler and medium-penetration subbottom profiler. Take, by Level B harassment only, of individuals of five species is anticipated to result from the specified activity.

NMFS issued CWA an IHA in 2011 (76 FR 80891, December 27, 2011) for survey work that was to be completed in 2012. However, subsequent to the issuance of that IHA, CWA found it necessary to divide their survey into two seasons. They completed approximately 20 percent of the survey in 2012 and obtained a second IHA to conduct the remaining 80 percent in 2013 (78 FR 19217, March 29, 2013). Due to scheduling adjustments, the work was not conducted in 2013 and this request is an extension of the original request. CWA is not changing their survey

activities in any way. However, the geotechnical portion of the survey was completed in 2012 and will not be continued during the 2014 season.

Description of the Specified Activity

CWA will conduct a high resolution geophysical survey in order to acquire remote-sensing data around Horseshoe Shoal which will be used to characterize resources at or below the seafloor. The purpose of the survey is to identify any submerged cultural resources that may be present and to generate additional data describing the geological environment within the survey area. The survey will satisfy the mitigation and monitoring requirements for “cultural resources and geology” in the environmental stipulations of the Bureau of Ocean Energy Management’s lease. The survey is part of the first phase of a larger Cape Wind energy project, which involves the installation of 130 wind turbine generators on Horseshoe Shoal over a 2-year period. The survey will collect data along predetermined track lines using a towed array of instrumentation, which will include a side scan sonar, magnetometer, shallow-penetration subbottom profiler, multibeam depth sounder, and medium-penetration subbottom profiler. Survey activities will not result in any disturbance to the sea floor.

Dates and Duration

Survey activities are necessary prior to construction of the wind turbine array and are scheduled to begin in the spring of 2014, continuing on a daily basis for up to five months. Survey vessels will operate during daytime hours only and CWA estimates that one survey vessel will cover about 17 nautical miles (31 kilometers) of track line per day. Therefore, CWA conservatively estimates that survey activities will take 109 days (28 days less than what was

expected under the 2012 IHA). However, if more than one survey vessel is used, the survey duration will be considerably shorter. NMFS is issuing an authorization that extends from May 1, 2014, to April 31, 2015.

Specified Geographic Region

Survey vessels are expected to depart from Falmouth Harbor, Massachusetts, or another nearby harbor on Cape Cod. In total, the survey will cover approximately 110 square kilometers (km²). This area includes the future location of the wind turbine generators – an area about 8.4 km from Point Gammon, 17.7 km from Nantucket Island, and 8.9 km from Martha’s Vineyard – and cables connecting the wind park to the mainland. The survey area within the wind park will be transited by survey vessels towing specialized equipment along primary track lines and perpendicular tie lines. Preliminary survey designs include primary track lines with northwest-southeast orientations and assume 30-meter (m) line spacing. Preliminary survey designs also call for tie lines to likely run in a west-east orientation covering targeted areas of the construction footprint where wind turbine generators would be located. The survey area along the interconnecting submarine cable route includes a construction and anchoring corridor, as part of the wind farm’s area of potential effect. The total track line distance covered during the survey is estimated to be about 3,432 km (as opposed to the 4,292 km included in the 2012 IHA).

Multiple survey vessels may operate within the survey area and will travel at about 3 knots during data acquisition and approximately 15 knots during transit between the survey area and port. If multiple vessels are used at the same time, they will be far enough apart that sounds from the chirp and boomer will not overlap. The survey vessels will acquire data continuously

throughout the survey area during the day and terminate survey activities before dark, prior to returning to port. NMFS believes that the likelihood of a survey vessel striking a marine mammal is low considering the low marine mammal densities within Nantucket Sound, the relatively short distance from port to the survey site, the limited number of vessels, and the small vessel size. Vessel sounds during survey activities would result from propeller cavitations, propeller singing, propulsion, flow noise from water dragging across the hull, and bubbles breaking in the wake. The dominant sound source from vessels will be from propeller cavitations; however, sounds resulting from survey vessel activity are considered to be no louder than the existing ambient sound levels and sound generated from regular shipping and boating activity in Nantucket Sound (MMS, 2009).

Detailed Description of Activities

NMFS expects that acoustic stimuli resulting from the operation of the survey equipment have the potential to harass marine mammals. Background information on the characteristics and measurement of sound were provided in the 2013 proposed IHA notice (78 FR 7402, February 1, 2013) and have not changed. Further information on the sound equipment was provided in the 2014 proposed IHA notice (79 FR 6167, February 3, 2014) and that information is not repeated here. In summer, the dominant sources of sound during the survey activities will be from the towed equipment used to gather seafloor data. Two of the seismic survey devices used during the high resolution geophysical survey emit sounds within the hearing range of marine mammals in Nantucket Sound: shallow-penetration and medium-penetration subbottom profilers (known as a “chirp” and “boomer,” respectively).

Comments and Responses

A proposed authorization and request for public comments was published in the Federal Register on February 3, 2014 (79 FR 6167). During the 30-day public comment period, NMFS received comments from the Marine Mammal Commission (Commission), Natural Resources Defense Council, the Alliance to Protect Nantucket Sound (Alliance), and over 100 private citizens. Over 40 people expressed general disapproval for CWA's proposed activity and NMFS' proposed authorization; and over 70 people, including the Natural Resources Defense Council, supported CWA's proposed activity and NMFS' proposed authorization. All comments have been compiled and posted at <http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications>. Any application-specific comments that address the MMPA statutory and regulatory requirements or findings NMFS must make to issue an IHA are addressed in this section.

Comment 1: The Commission recommended that NMFS (1) require CWA to estimate the number of marine mammals taken when the shallow-penetration sub-bottom profiler would be used based on the 120-dB threshold (Level B harassment threshold for continuous sound) rather than the 160-dB threshold (for non-continuous sound); and (2) consult with experts in the field of sound propagation and marine mammal hearing to revise the acoustic criteria as necessary to specify threshold levels that would be more appropriate for a wider variety of sound sources, including the shallow-penetration sub-bottom profiler.

Response 1: As explained in the previous authorizations for this activity, using the 120-dB threshold for the shallow-penetration sub-bottom profiler is not consistent with NMFS'

current acoustic thresholds. The shallow-penetration sub-bottom profiler (“chirper”) is a non-impulsive, but intermittent (as opposed to continuous), sound source. Continuous sound sources are best represented by vibratory pile driving or drilling and produce sounds that are quite different from sub-bottom profilers. NMFS has previously applied the 160-dB threshold to non-tactical sonar sources used in conjunction with seismic surveys. The pseudo-random noise stimulus and tactical sonar-like signals that were used in the SOCAL-10 behavioral response study are also considered non-impulsive intermittent sources and were authorized by NMFS using the 160-dB threshold. NMFS believes that the 160-dB threshold is appropriately applied to the shallow-penetration sub-bottom profiler and there is no need for CWA to estimate take using a different criteria.

As the Commission is aware, NMFS is in the process of updating acoustic guidelines for assessing the effects of anthropogenic sound on marine mammals. Until those guidelines are complete, we are relying on the existing criteria.

Comment 2: The Commission recommended that NMFS, in our guidance regarding revised Level B harassment thresholds for behavior, include thresholds and take estimates for all types of sources that might be used during site characterization surveys.

Response 2: NMFS is currently updating and revising all of its acoustic thresholds, but is initially focused on thresholds for injury. NMFS notes the Commission’s recommendation and will address this comment when the process for revising the Level B harassment thresholds begins.

Comment 3: The Commission recommended that NMFS require CWA to reestimate the number of takes of gray and harbor seals based on (1) a more conservative correction factor to account for negative biases associated with CWA's at-sea aerial survey counts; or (2) using density estimates from other proposed activities occurring in the same area that have been adjusted by a haul-out correction factor.

Response 3: NMFS disagrees that CWA needs to reestimate the number of takes of gray and harbor seals. As explained in previous authorizations for this activity, CWA included a correction factor when calculating seal density estimates. NMFS disagrees that this correction factor needs to be more conservative, especially considering that CWA observed no living marine mammals during 28 days and 459 nautical transect miles of survey activity during 2012.

Also explained in previous authorizations for this activity, CWA did not use density estimates for seals based on haul out counts due to the distance of haul outs from the activity area (12.7 miles to Monomoy Island and 7.4 miles to Muskeget Island). Gray seals and harbor seals congregating in these locations are not expected to hear sounds from the survey equipment at 160 dB or higher. The seals most likely to be exposed to potentially disturbing sounds are the individuals swimming and/or foraging within 444 m of the activated medium-penetration subbottom profiler. Again, NMFS disagrees that the density estimates need to be adjusted, especially considering that CWA observed no living marine mammals during 2012 survey activities.

Comment 4: The Commission recommended that NMFS include in each proposed IHA a sufficiently detailed description of the proposed activities and the potential impacts on marine

mammals to allow the public to review and comment on the proposed authorization as a stand-alone document.

Response 4: NMFS provided a detailed description of the activity in the proposed IHA notice, including specific sound sources and their characteristics, dates and duration of the activity, location of the activity, and sound source verification results from monitoring in 2012. NMFS also provided a general description/background of potential effects to marine mammals and referred the reader to the 2013 proposed IHA notice (78 FR 7402, February 1, 2013) in order to streamline the document, particularly considering that this is not a new action.

Comment 5: The Alliance suggested that NMFS cannot issue an IHA for the proposed activity because CWA is attempting to segment their larger wind energy project and avoid the issuance of a Letter of Authorization (LOA) and associated regulations. The Alliance further suggested that allowing an applicant to apply for multiple IHAs prevents NMFS from properly analyzing the specified activity and its potential impacts on marine mammals.

Response 5: As explained in the 2011 and 2013 final IHA notices (76 FR 80891, December 27, 2011 and 78 FR 19217, March 29, 2013), CWA requested an IHA for a discrete, specified activity: a high resolution geophysical survey that is required prior to construction of CWA's long-term energy project. The definition of a "specified activity" is "any activity, other than commercial fishing, that takes place in a specified geographical region and potentially involves the taking of small numbers of marine mammals." See 50 CFR 216.103. The MMPA and its implementing regulations do not provide any further definition or restriction to this term. The Alliance claims that the "specified activity" is the entire Cape Wind energy project, citing

BOEM's approval of the entire project. NMFS' definition of a specified activity is not related to how other federal agencies define or approve projects.

The MMPA directs NMFS to allow, upon request, the incidental taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity within a specified geographical region if certain findings are made. All statutory requirements have been met in this instance. The issuance of regulations and an LOA is only required if the proposed activity has the potential to result in incidental takings of marine mammals by serious injury or mortality. Applicants have the option of applying for a 1-year IHA if their specified activity (in this case, the high resolution geophysical survey) would not result in the serious injury or mortality of marine mammals. The MMPA and its implementing regulations do not prohibit IHAs for activities that may occur for more than a 1-year period. In fact, NMFS has often issued IHAs for activities that occur for longer than a 1-year period. In some cases, applicants choose to pursue LOAs governed by regulations for activities that will not result in the serious injury or mortality of marine mammals because it streamlines the authorization process and prevents the need for an annual application and public comment period. Based on factors addressed in the application and proposed IHA (e.g., estimated sound propagation, slow vessel speeds, and monitoring and mitigation measures,) CWA does not anticipate, nor is NMFS authorizing, the incidental taking of marine mammals by serious injury or mortality. Therefore, an IHA is appropriate. NMFS has notified CWA that future activities may also require separate authorization(s) under the MMPA.

The questions an applicant must answer are the same whether applying for an IHA or an LOA. NMFS evaluates the specified activity in the same manner and addresses the same

questions regarding impacts. Further, NMFS must make the same determinations regarding negligible impact and small numbers, which are addressed at the end of this document.

Comment 6: The Alliance suggested the CWA's application is defective because it does not request incidental take of right whales and fails to impose a vessel speed restriction to protect right whales.

Response 6: CWA's application does mention the presence of right whales in New England waters, but does not request authorization for incidental take of this species. The presence of right whales in Nantucket Sound is uncommon. NMFS has determined, based on 10 years of right whale data collection in Nantucket Sound, that the incidental take of a right whale by vessel strike or Level B (behavioral) harassment is unlikely. In 2008, NMFS published a final rule in the Federal Register instituting Mid-Atlantic Seasonal Management Areas with a mandatory 10-knot speed restriction to reduce the threat of ship collisions with right whales. The Seasonal Management Areas were established to provide additional protection for right whales and the timing, duration, and geographic extent of the speed restrictions were specifically designed to reflect right whale movement, distribution, and aggregation patterns. Nantucket Sound is not considered a Seasonal Management Area; however, Nantucket Sound was included as part of a Dynamic Management Area (with a voluntary 10-knot speed zone) through March 13, 2013. There are currently no active Dynamic Management Areas.

The very qualities that make right whales susceptible to being struck by vessels in certain areas also make them highly detectable. NMFS believes that the size of right whales, their slow movements, and the amount of time they spend at the surface would make them extremely likely

to be spotted by Protected Species Observers (PSO) before they are exposed to sounds that constitute harassment. Furthermore, CWA's survey vessels would be traveling at low speeds (3 knots) during survey operations. Whenever sub-bottom profiling activities are underway, at least one PSO will be monitoring the 500-m exclusion zone – which is larger than both the Level A (30 m) and Level B (444 m) harassment isopleths – and will call for a shutdown if any marine mammal is observed within or moving toward the exclusion zone. Furthermore, right whales are not common in Nantucket Sound and there are no known foraging grounds or other important habitats for right whales in Nantucket Sound. However, as stated in the Biological Opinion for the long-term Cape Wind energy project, CWA will monitor the Right Whale Sighting Advisory System and can modify their survey schedule in the unlikely event that whales are present within Nantucket Sound. CWA did not propose, and NMFS is not authorizing, the take of right whales from survey activities. Although there have been a limited number of right whale sightings in Nantucket Sound over the past 10 years (as seen on NMFS Northeast Fisheries Science Center website: <http://www.nefsc.noaa.gov/psb/surveys/>), these have not overlapped with the proposed survey area on Horseshoe Shoal, likely due to the shallower water depths. Thus, we do not anticipate that CWA's activities will result in the take of right whales.

Comment 7: The Alliance takes issue with NMFS' conclusion that there is no anticipated impact on marine mammal habitat from the proposed activities.

Response 7: In the Anticipated Effects on Marine Mammal Habitat section of each Federal Register notice that NMFS has published regarding CWA's survey, we state that marine mammals may avoid the survey area temporarily due to ensonification, but that survey activities

are not expected to result in long-term abandonment of marine mammal habitat. Furthermore, we note that the proposed activity is not expected to have any effects on important marine mammal habitat (because there are no known areas of significance such as rookeries or mating grounds in the proposed survey area). Because of the limited spatial extent of the effects on acoustic habitat, NMFS does not think that the survey will contribute to adverse impacts on annual rates of recruitment or survival.

The Alliance cites the “prolonged introduction of acoustic energy into Nantucket Sound” and the fact that the survey activity is taking place over a 3-year period (rather than 1 year as originally planned). As explained in CWA’s application and the numerous Federal Register notices NMFS has published, the distances at which sound levels could result in harassment are relatively short (30 m for Level A and 444 m for Level B). Furthermore, CWA will be required to implement a 500-m exclusion zone for all marine mammals in order to prevent harassment. The fact that CWA’s original proposed survey has extended into multiple years does not change NMFS’ determinations. CWA has not increased the amount or duration of survey work originally proposed.

Comment 8: The Alliance commented that the number of PSOs required aboard CWA’s survey vessel remains unclear and appears inadequate.

Response 8: As detailed in the Mitigation and Monitoring sections of this document, at least one PSO will monitor the 500-m radius exclusion zone (an area that is larger than the Level A and Level B harassment zones) during all survey activities involving the shallow-penetration and medium penetration subbottom profilers. This PSO(s) will monitor (using binoculars and

other appropriate equipment to record species, movement, and behavior) 60 minutes prior to starting or restarting surveys, during surveys, and 60 minutes after survey equipment has been turned off. Due to the survey vessel's small size and limited space for up to six personnel, it is not feasible for CWA to guarantee that more than one PSO will be available for mitigation monitoring. In addition, at least one PSO shall conduct behavioral monitoring from the survey vessel at least twice for every 7 days of survey activity to estimate take and evaluate the behavioral impacts that survey activities have on marine mammals outside of the 500-m exclusion zone. Lastly, a separate vessel with another PSO will collect data on species presence and behavior before surveys begin and once a month during survey activities. All PSOs must be able to effectively monitor the 500-m exclusion zone whenever the subbottom profilers are in use. CWA will only conduct survey efforts during daylight hours and visibility must not be obscured by fog, lighting conditions, etc.

NMFS believes this monitoring is sufficient to minimize the exposure of sound to marine mammals and record potential behavioral impacts to marine mammals, considering the following: the relatively small size of the mitigation zone (500-m) and the fact that it extends beyond the Level A and Level B harassment zones, the slow speed of survey vessels during survey operations (3 knots), the low density of marine mammals in Nantucket Sound, the time/weather restrictions, and the lack of any live marine mammal observations during 28 days of survey activity in 2012. Furthermore, CWA performed sound source verification monitoring in 2012 and the received 90-percent RMS sound pressure levels from the subbottom profilers did

not exceed 175 dB. The longest distance to the 160-dB isopleth was 12 m, as opposed to the estimated 444 m.

Comment 9: The Alliance stated that the IHA application and NMFS' 2011 Environmental Assessment (EA) lack a current, activity-specific cumulative impact analysis and fail to properly address impacts on sea turtles.

Response 9: The MMPA does not require a cumulative impact analysis for incidental take authorizations. However, in accordance with the National Environmental Policy Act (NEPA), NMFS prepared an EA in 2011 that addressed cumulative impacts. In addition, NMFS wrote a memo to the record that evaluates whether a supplement to the 2011 EA is needed. The EA and memo are available online at:

<http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications>.

The effects of CWA's underlying action on sea turtles were already considered in the Biological Opinion. NMFS' issuance of an IHA under the MMPA relates only to impacts on marine mammals and their habitat. Furthermore, the scope of NMFS' 2011 EA is focused on NMFS' proposed issuance of an IHA for the take of marine mammals. However, NMFS Permits and Conservation Division consulted with NMFS' Greater Atlantic Regional Fisheries Office on the effects to ESA-listed marine mammals from issuance of the IHA. The region concurred with a 'not likely to adversely affect' determination on April 24, 2014.

Comment 10: The Alliance states that CWA's application fails to specify which port will be used for the survey vessels.

Response 10: As addressed in the 2011 IHA (76 FR 80892, December 27, 2011), the 2013 IHA (78 FR 19217, March 29, 2013), and the most recent proposed IHA (79 FR 6167, February 3, 2014), CWA's survey vessels are expected to depart from Falmouth Harbor, Massachusetts, or another nearby harbor on Cape Cod. This information was provided by CWA at NMFS' request.

Comment 11: The Alliance claims that NMFS has not complied with NEPA because the 2011 EA is insufficient, relies on a deficient 2009 Environmental Impact Statement (EIS), and must be made available for public comment.

Response 11: BOEM's 2009 EIS (which was recently upheld by the U.S. district court for the District of Columbia) assessed the physical, biological, and social/human impacts of Cape Wind's proposed project (the long-term energy project). NMFS used this EIS to inform our analysis in the 2011 EA. NMFS' proposed action of issuing an IHA to CWA for the take of marine mammals incidental to a high-resolution geophysical survey has not changed. As mentioned in Response 9, NMFS evaluated whether or not a supplement to the 2011 EA was needed in a memo to the record. NMFS does not believe that there are substantive changes in the proposed action or new science that would change our determinations or the scope of our analysis. The Alliance cites the presence of right whales in the project area and the issuance of new leases in the region as making BOEM's 2009 EIS "beyond its useful life as a NEPA document." NMFS addressed the presence of right whales in Response 6 of this section and pointed out that, although there have been a limited number of right whale sightings in Nantucket Sound over the past 10 years (as seen on NMFS Northeast Fisheries Science Center website:

<http://www.nefsc.noaa.gov/psb/surveys/>), these have not overlapped with the proposed survey area on Horseshoe Shoal, likely due to the shallower water depths. The issuance of new BOEM leases in the region (outside of Nantucket Sound) is not likely to result in an overlap of activities in time and space. CWA's survey activity will take place over an approximate 109-day period and may be concluded by spring 2015.

As explained in numerous other Federal Register notices concerning this action, during the development of this action, including the 2011 EA, several documents were made available to the public, all of which provided a detailed description of the action and potential environmental impacts. For example, the analysis of impacts to marine mammals from the proposed high resolution geophysical survey activities was contained in NMFS' proposed issuance of an IHA (most recently in 2014 [79 FR 6167, February 3, 2014]) and is similar to what is contained in the EA. Additional environmental information was contained in CWA's 2011 and 2013 IHA applications, which were also made available to the public. Other documents used to inform the EA included the Biological Opinion (issued December 30, 2010 by NMFS Northeast Regional Office, and available at <http://www.epa.gov/region1/communities/pdf/CapeWind/CapeWindBiologicalOpinion-12-30-10.pdf>) and the Final Environmental Impact Statement (published by the Bureau of Ocean Energy Management) on January 21, 2009 [74 FR 3635]) for the long-term Cape Wind energy project. The EA describes potential environmental impacts from the limited action for which an IHA was requested – the take of marine mammals incidental to CWA's high resolution geophysical survey – which is similar to numerous other survey activities that NMFS has

analyzed in the past. NMFS believes that sufficient environmental information was presented to the public and comments on the proposed IHA were taken into consideration during preparation of the EA.

Comment 12: The Alliance compares CWA's activity to Deepwater Wind's proposed Block Island transmission system and wind farm activities and suggests that because Deepwater Wind requested (and NMFS is proposing) take of right whales, that CWA should do the same. The Alliance also suggests that the monitoring requirements for CWA are deficient because Deepwater Wind is proposing to use a higher number of PSOs.

Response 12: NMFS published two proposed IHAs recently for Deepwater Wind's transmission system (79 FR 15573, March 20, 2014) and wind farm (79 FR 16301, March 25, 2014). Deepwater Wind's activities are substantially different from CWA's activities. Deepwater Wind is proposing to conduct pile driving and use vessels with dynamic positioning systems, while CWA will be conducting a high resolution geophysical survey. The sound source types, sound propagation, harassment zones, and PSOs necessary to monitor these zones are not comparable between activities.

Description of Marine Mammals in the Area of the Specified Activity

All marine mammals with possible or confirmed occurrence in the activity area were listed and discussed in the proposed IHA notice (79 FR 6167, February 3, 2014) and that information has not changed. In summary, sightings data suggest that whales do not commonly visit Nantucket Sound and there have been no sightings of ESA-listed large whales on Horseshoe Shoal. All of the right whales observed in Nantucket Sound during 2010 quickly transited the

area and there is no evidence of any persistent aggregations around the project area. Nantucket Sound's shallower depths and location outside of the coastal migratory corridor are likely the cause of limited whale sightings.

Marine mammals with known occurrences in Nantucket Sound most likely to be harassed by high resolution geophysical survey activity are listed in Table 1 below. These are the species for which take was requested and authorized and all are not listed under the Endangered Species Act. Further information on the biology and local distribution of these species and others in the region can be found in the proposed IHA notice (79 FR 6167, February 3, 2014), CWA's application, which is available online at:

<http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications>, and the NMFS Marine

Mammal Stock Assessment Reports, which are available online at:

<http://www.nmfs.noaa.gov/pr/species>.

Table 2. Marine mammals that could be impacted by survey activities in Nantucket Sound.

Common Name	Scientific Name	Abundance	Population Status	Time of Year in New England
Minke whale	<u>Balaenoptera</u> <u>actuorostrata</u>	20,741	n/a	April through October
Atlantic white-sided dolphin	<u>Lagenorhynchus</u> <u>acutus</u>	48,819	n/a	October through December
Harbor porpoise	<u>Phocoena</u> <u>phocoena</u>	79,883	n/a	Year-round (peak Sept-Apr)
Gray seal	<u>Halichoerus</u> <u>grypis</u>	348,900	increasing	Year-round
Harbor seal	<u>Phoca vitulina</u>	99,340	n/a	October through April

Potential Effects of the Specified Activity on Marine Mammals

Use of subbottom profilers on Horseshoe Shoal may temporarily impact marine mammal behavior within the survey area due to elevated in-water sound levels. Marine mammals are continually exposed to many sources of sound. Naturally occurring sounds such as lightning, rain, sub-sea earthquakes, and biological sounds (for example, snapping shrimp, whale songs) are widespread throughout the world's oceans. Marine mammals produce sounds in various contexts and use sound for various biological functions including, but not limited to: (1) social interactions; (2) foraging; (3) orientation; and (4) predator detection. Interference with producing or receiving these sounds may result in adverse impacts. Audible distance, or received levels of sound depend on the nature of the sound source, ambient noise conditions, and the sensitivity of the receptor to the sound (Richardson et al., 1995). Type and significance of marine mammal reactions to sound are likely dependent on a variety of factors including, but not limited to, (1) the behavioral state of the animal (for example, feeding, traveling, etc.); (2) frequency of the sound; (3) distance between the animal and the source; and (4) the level of the sound relative to ambient conditions (Southall et al., 2007).

Background information on sound, marine mammal hearing, and potential effects of the specified activity on marine mammals (i.e., hearing impairment, threshold shift, and behavioral disturbance) was provided in the 2013 proposed IHA notice (78 FR 7402, February 1, 2013) and referenced in the 2014 proposed IHA notice (79 FR 6167, February 3, 2014); that information has not changed.

Anticipated Effects on Marine Mammal Habitat

The high resolution geophysical survey equipment will not come in contact with the seafloor and will not be a source of air or water pollution. Marine mammals may avoid the survey area temporarily due to ensonification, but survey activities are not expected to result in long-term abandonment of marine mammal habitat. The specified activity is not expected to have any effects on important marine mammal habitat.

Mitigation

In order to issue an incidental take authorization under section 101(a)(5)(D) of the MMPA, NMFS must prescribe, where applicable, the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking for subsistence uses (where relevant).

CWA proposed, with NMFS' guidance, the following mitigation measures to help ensure the least practicable adverse impact on marine mammals and these mitigation measures are requirements in the IHA:

Establishment of an Exclusion Zone

During all survey activities involving the shallow-penetration and medium-penetration subbottom profilers, CWA will establish a 500-m radius exclusion zone around each survey vessel. This area will be monitored for marine mammals 60 minutes (as stipulated by the BOEM lease) prior to starting or restarting surveys, and during surveys, and 60 minutes after survey equipment has been turned off. Typically, the exclusion zone is based on the area in which

marine mammals could be exposed to injurious (Level A) levels of sound. CWA's lease specifies a 500-m exclusion zone, which exceeds both the estimated Level A and Level B isopleths for marine mammal harassment. Thus, CWA's proposed exclusion zone will minimize impacts to marine mammals from increased sound exposures. Finally, the exclusion zone must not be obscured by fog or poor lighting conditions.

Shut Down and Delay Procedures

If a PSO sees a marine mammal within or approaching the exclusion zone prior to the start of surveying, the observer will notify the appropriate individual who will then be required to delay surveying (i.e., not initiate any sound sources that could result in the harassment of marine mammals) until the marine mammal moves outside of the exclusion zone or if the animal has not been resighted for 60 minutes. If a protected species observer sees a marine mammal within or approaching the exclusion zone during survey activities, the observer will notify the appropriate individual who will then be required to shut down the relevant sound sources until the marine mammal moves outside of the exclusion zone or if the animal has not been resighted for 60 minutes.

Soft-start Procedures

A "soft-start" technique will be used at the beginning of survey activities each day (or following a shut down of the relevant sound sources) to allow any marine mammal that may be in the immediate area to leave before the sound sources reach full energy. Sound sources will not commence at nighttime or when the exclusion zone cannot be effectively monitored.

Mitigation Conclusions

NMFS has carefully evaluated the applicant's proposed mitigation measures and considered a range of other measures to ensure that NMFS prescribes the means of effecting the least practicable impact on the affected marine mammal species and stocks and their habitat. Our evaluation of potential measures included consideration of the following factors in relation to one another:

- The manner in which, and the degree to which, the successful implementation of the measure is expected to minimize adverse impacts to marine mammals
- The proven or likely efficacy of the specific measure to minimize adverse impacts as planned
- The practicability of the measure for applicant implementation

Any mitigation measures(s) prescribed by NMFS should be able to accomplish, have a reasonable likelihood of accomplishing (based on current science), or contribute to the accomplishment of one or more of the general goals listed below:

1. Avoidance or minimization of injury or death of marine mammals wherever possible (goals 2, 3, and 4 may contribute to this goal)
2. A reduction in the numbers of marine mammals (total number or number at biologically important time or location) exposed to received levels of underwater impulse sounds, or other activities expected to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing harassment takes only)
3. A reduction in the number of times (total number or number at biologically important time or location) individuals would be exposed to received levels of impulse sound, or

other activities expected to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing harassment takes only)

4. A reduction in the intensity of exposures (either total number or number at biologically important time or location) to received levels of impulse sound, or other activities expected to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing the severity of harassment takes only)
5. Avoidance or minimization of adverse effects to marine mammal habitat, paying special attention to the food base, activities that block or limit passage to or from biologically important areas, permanent destruction of habitat, or temporary destruction/disturbance of habitat during a biologically important time
6. For monitoring directly related to mitigation – an increase in the probability of detecting marine mammals, thus allowing for more effective implementation of the mitigation

Based on our evaluation of the applicant's proposed measures, as well as other measures considered by NMFS, we have determined that the aforementioned mitigation measures provide the means of effecting the least practicable adverse impacts on marine mammals species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Monitoring and Reporting

In order to issue an incidental take authorization for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth, where applicable, "requirements pertaining to the monitoring and reporting of such taking." The MMPA implementing regulations at 50 CFR

216.104 (a)(13) indicate that requests for incidental take authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the proposed action area. CWA submitted a marine mammal monitoring plan as part of the IHA application, which can be found in section 12 of CWA's application.

Monitoring measures prescribed by NMFS should accomplish one or more of the following general goals:

- An increase in the probability of detecting marine mammals, both within the mitigation zone (thus allowing for more effective implementation of the mitigation) and in general to generate more data to contribute to the analyses mentioned below
- An increase in our understanding of how many marine mammals are likely to be exposed to levels of impulse sound that we associate with specific adverse effects, such as behavioral harassment, TTS, or PTS
- An increase in our understanding of how marine mammals respond to stimuli expected to result in take and how anticipated adverse effects on individuals (in different ways and to varying degrees) may impact the population, species, or stock (specifically through effects on annual rates of recruitment or survival) through any of the following methods:
 - Behavioral observations in the presence of stimuli compared to observations in the absence of stimuli (need to be able to accurately predict received level, distance from source, and other pertinent information)

- Physiological measurements in the presence of stimuli compared to observations in the absence of stimuli (need to be able to accurately predict received level, distance from source, and other pertinent information)
- Distribution and/or abundance comparisons in times or areas with concentrated stimuli versus times or areas without stimuli
- An increased knowledge of the affected species
- An increase in our understanding of the effectiveness of certain mitigation and monitoring measures

Visual Monitoring

CWA will designate at least one biologically-trained, on-site individual, approved in advance by NMFS, to monitor the area for marine mammals 60 minutes before, during, and 60 minutes after all survey activities and call for shut down of the sound source if any marine mammal is observed within or approaching the designated 500-m exclusion zone.

CWA will also provide additional monitoring efforts to increase knowledge of marine mammal species in Nantucket Sound. At least one NMFS-approved protected species observer will conduct behavioral monitoring from the survey vessel for two days, every 7 days of survey activity, to estimate take and evaluate the behavioral impacts that survey activities have on marine mammals outside of the 500-m exclusion zone. In addition, CWA will also deploy an additional vessel with a NMFS-approved PSO to collect data on species presence and behavior before surveys begin and once a month during survey activities.

PSOs will be provided with the equipment necessary to effectively monitor for marine mammals (for example, high-quality binoculars, compass, and range-finder) in order to determine if animals have entered the harassment isopleths and to record marine mammal sighting information. PSOs must be able to effectively monitor the 500-m exclusion zone whenever the subbottom profilers are in use. Survey efforts will only take place during daylight hours and visibility must not be obscured by fog, lighting conditions, etc.

Reporting Measures

CWA will submit a report to NMFS within 90 days of expiration of the IHA or completion of surveying, whichever comes first. The report will provide full documentation of methods, results, and interpretation pertaining to all monitoring. More specifically, the report will include the following information when a marine mammal is sighted:

- Dates, times, locations, heading, speed, weather, sea conditions (including Beaufort sea state and wind force), and associated activities during all survey operations and marine mammal sightings;
- Species, number, location, distance from the vessel, and behavior of any marine mammals, as well as associated survey activity (number of shut-downs or delays), observed throughout all monitoring activities;
- An estimate of the number (by species) of marine mammals that are known to have been exposed to the survey activity (based on visual observation) at received levels greater than or equal to 160 dB re 1 uPa (rms) and/or 180 dB re 1 uPa (rms) for cetaceans and

190 dB re 1 uPa (rms) for pinnipeds with a discussion of any specific behaviors those individuals exhibited; and

- A description of the implementation and effectiveness of the mitigation measures of the IHA.

In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by the IHA, such as an injury (Level A harassment), serious injury, or mortality (e.g., ship-strike, gear interaction, and/or entanglement), CWA would immediately cease the specified activities and report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and/or by email to Jolie.Harrison@noaa.gov and the Northeast Regional Stranding Coordinator at 978-281-9300 (Mendy.Garron@noaa.gov). The report must include the following information:

- Time, date, and location (latitude/longitude) of the incident;
- Name and type of vessel involved;
- Vessel's speed during and leading up to the incident;
- Description of the incident;
- Status of all sound source use in the 24 hours preceding the incident;
- Water depth;
- Environmental conditions (e.g., wind speed and direction, Beaufort sea state, cloud cover, and visibility);
- Description of all marine mammal observations in the 24 hours preceding the incident;
- Species identification or description of the animal(s) involved;

- Fate of the animal(s); and
- Photographs or video footage of the animal(s) (if equipment is available).

Activities may not resume until NMFS is able to review the circumstances of the unauthorized take. NMFS would work with CWA to determine what is necessary to minimize the likelihood of further unauthorized take and ensure MMPA compliance. CWA may not resume their activities until notified by NMFS via letter, email, or telephone.

In the event that CWA discovers an injured or dead marine mammal, and the lead PSO determines that the cause of the injury or death is unknown and the death is relatively recent (i.e., in less than a moderate state of decomposition as described in the next paragraph), CWA would immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and/or by email to Jolie.Harrison@noaa.gov and the Northeast Regional Stranding Coordinator at 978-281-9300 (Mendy.Garron@noaa.gov). The report must include the same information identified in the paragraph above. Activities may continue while NMFS reviews the circumstances of the incident. NMFS would work with CWA to determine whether modifications in the activities are appropriate.

In the event that CWA discovers an injured or dead marine mammal, and the lead PSO determines that the injury or death is not associated with or related to the activities authorized in the IHA (e.g., previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), CWA would report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and/or by email to Jolie.Harrison@noaa.gov and the Northeast Regional Stranding Coordinator at 978-281-9300

(Mendy.Garron@noaa.gov), within 24 hours of the discovery. CWA would provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS. Activities may continue while NMFS reviews the circumstances of the incident.

Monitoring Results from Previously Authorized Activities

CWA complied with the requirements under their 2012 IHA and did not conduct any activities under their 2013 IHA. CWA completed 28 days and 459 nautical transect miles of survey activity during 2012 and no living marine mammals were sighted. On July 10, 2012, a deceased harbor seal was seen by two PSOs and survey equipment was immediately shut down. The observers determined that the seal had been deceased for 24-48 hours, based on signs of scavenger damage and bloating, which suggest moderate decomposition (Pugliares *et al.*, 2007). Both observers concurred that the animal was not injured due to survey activities; however, a 60-minute post watch was performed to ensure that no other protected species were in the vicinity. A full report was submitted to NMFS on July 11, 2012, within 24 hours of the initial sighting. No marine mammal takes were reported during the 2012 season. CWA's monitoring report is available online at: <http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications>.

Estimated Take by Incidental Harassment

Except with respect to certain activities not pertinent here, the MMPA defines "harassment" as: any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption

of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering [Level B harassment].

Based on CWA's application and NMFS' subsequent analysis, the impact of the described survey activities may result in, at most, short-term modification of behavior by small numbers of non-ESA listed marine mammals within the action area. Marine mammals may avoid the area or change their behavior at time of exposure to elevated sound levels.

Current NMFS practice regarding exposure of marine mammals to anthropogenic sound is that in order to avoid the potential for injury of marine mammals (for example, PTS), cetaceans and pinnipeds should not be exposed to impulsive sounds of 180 and 190 dB re: 1 μ Pa or above, respectively (Level A harassment). This level is considered precautionary as it is likely that more intense sounds would be required before injury would actually occur (Southall et al., 2007). Potential for behavioral harassment (Level B) is considered to have occurred when marine mammals are exposed to sounds at or above 160 dB re: 1 μ Pa for impulse sounds and 120 dB re: 1 μ Pa for non-pulse noise, but below the aforementioned thresholds. These levels are also considered precautionary. NMFS' current acoustic exposure criteria are summarized below in Table 3.

Table 3. NMFS' current acoustic criteria, as they pertain to the specified activity.

Non-Explosive Sound		
Criterion	Criterion Definition	Threshold
Level A Harassment (Injury)	Permanent Threshold Shift (PTS) (Any level above that which is known to cause TTS)	180 dB re 1 microPa-m (cetaceans) / 190 dB re 1 microPa-m (pinnipeds) root mean square (rms)
Level B	Behavioral Disruption	160 dB re 1 microPa-m (rms)

Harassment	(for impulse noises)	
Level B Harassment	Behavioral Disruption (for continuous noise)	120 dB re 1 microPa-m (rms)

With NMFS' input, CWA estimated the number of potential takes resulting from survey activities by considering species density, the zone of influence, and duration of survey activities. This information was detailed in the proposed IHA notice (79 FR 6167, February 3, 2014) and has not changed. In summary, CWA requested, and NMFS is authorizing, incidental take based on the highest estimated possible species exposures to potentially disturbing levels of sound from the boomer (Table 3). No marine mammals are expected to be exposed to injurious levels of sound in excess of 180 dB during survey activities. These take numbers overestimate the number of animals likely to be taken because they are based on the highest density estimates and do not account for required mitigation measures (such as the 500-m exclusion zone, marine mammal monitoring, and ramp-up procedures). These numbers indicate the maximum number of animals expected to occur within 444 m of the boomer.

Table 4. Authorized take of marine mammals by the specified activity.

Common Name	Estimated Density	Estimated Take by Level B Harassment	Abundance of Stock	Percentage of Stock Potentially Affected	Population Trend
Minke whale	0.13-7.4 (species/1,000 km ²)	9	20,741	0.04%	n/a
Atlantic white-sided dolphin	0.13-164.3 (species/1,000 km ²)	185	48,819	0.38%	n/a
Harbor porpoise	0.13-98.1 (species/1,000 km ²)	110	79,883	0.01%	n/a

Gray seal	0.13-0.28 (species/km ²)	314	348,900	0.09%	increasing
Harbor seal	0.03-0.07 (species/km ²)	79	99,340	0.08%	n/a

Any impacts to marine mammal behavior from the specified activity are expected to be temporary. Animals may avoid the area around the survey vessels, thereby reducing the probability of exposure. Any disturbance to marine mammals is likely to be in the form of temporary avoidance or alteration of opportunistic foraging behavior near the survey location.

Analysis and Determinations

Negligible Impact

Negligible impact is "an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival" (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (i.e., population-level effects). An estimate of the number of Level B harassment takes, alone, is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be "taken" through behavioral harassment, NMFS must consider other factors, such as the likely nature of any responses (their intensity, duration, etc.), the context of any responses (critical reproductive time or location, migration, etc.), as well as the number and nature of estimated Level A harassment takes, the number of estimated mortalities, and effects on habitat.

In making a negligible impact determination, NMFS considers a number of factors which include, but are not limited to, number of anticipated injuries or mortalities (none of which would be authorized here), number, nature, intensity, and duration of Level B harassment, and the context in which takes occur (for instance, will the takes occur in an area or time of significance for marine mammals, or are takes occurring to a small, localized population?). As described above, marine mammals would not be exposed to activities or sound levels which would result in injury (for instance, PTS), serious injury, or mortality. Anticipated impacts of CWA's survey activities on marine mammals are temporary behavioral changes due to

avoidance of the area. All marine mammals in the vicinity of survey operations will be transient as no breeding, calving, pupping, or nursing areas, or haul-outs, overlap with the survey area. The closest pinniped haul-outs are about 20 km and 12 km away on Monomoy Island and Muskeget Island, respectively. Marine mammals approaching the survey area will likely be traveling or opportunistically foraging.

Furthermore, the amount of take CWA requested and NMFS is authorizing likely overestimates the actual take that will occur; no marine mammal takes were observed during 28 days of survey activity in 2012. It is important to note that the marine mammal exclusion zone that CWA will implement is larger than the Level A and Level B harassment zones, and sound source verification monitoring from 2012 suggests that the originally estimated zones are much smaller. No affected marine mammals are listed under the ESA and only the Atlantic white-sided dolphin and harbor porpoise are considered strategic under the MMPA. Marine mammals are expected to avoid the survey area, thereby reducing the risk of exposure and impacts. No disruption to reproductive behavior is anticipated and there is no anticipated effect on annual rates of recruitment or survival of affected marine mammals.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of mitigation and monitoring measures, NMFS has determined that the total marine mammal take by Level-B harassment from CWA's survey activities will have a negligible impact on the affected species or stocks.

Small Numbers

The amount of take CWA requested, and NMFS is authorizing, is considered small (less than one percent) relative to the estimated populations of 20,741 minke whales, 48,819 Atlantic white-sided dolphins, 79,883 harbor porpoises, 348,900 gray seals, and 99,340 harbor seals. Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the mitigation and monitoring measures, NMFS finds that small numbers of marine mammals may be taken relative to the population of the affected species or stocks.

Impact on Availability of Affected Species for Taking for Subsistence Uses

There are no relevant subsistence uses of marine mammals implicated by this action. Therefore, NMFS has determined that the total taking of affected species or stocks will not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

Endangered Species Act (ESA)

On April 16, 2014, the NMFS Permits and Conservation Division concluded that the issuance of the IHA to CWA is not likely to adversely affect any listed marine mammal, and we requested NMFS' Greater Atlantic Regional Fisheries Office's concurrence on our determination. The region concurred with this determination on April 24, 2014.

National Environmental Policy Act (NEPA)

In compliance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), as implemented by the regulations published by the Council on Environmental Quality (40 CFR parts 1500-1508), and NOAA Administrative Order 216-6, NMFS prepared an Environmental Assessment (EA). The EA includes an analysis of the direct, indirect, and cumulative effects to marine mammals and other applicable environmental resources resulting from the issuance of a 1-year IHA and the potential issuance of additional authorization for incidental harassment for the ongoing project in 2012. While processing the 2014 IHA, NMFS wrote a memorandum to the record to determine and document whether any changes to the proposed MMPA decision or new circumstances or information required us to supplement the 2011 EA and FONSI. NMFS determined that the effects of the 2014 IHA fall within the scope

of the 2011 EA and FONSI and the Bureau of Ocean Energy Management's Cape Wind Final Environmental Impact Statement and do not require further supplementation. This EA is available on the NMFS website listed in the beginning of this document.

Dated: April 28, 2014.

Donna S. Wieting,
Director,
Office of Protected Resources,
National Marine Fisheries Service.

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